

REMARKS

Claims 1-21 are pending in this application. Attached hereto is a complete listing of all claims in the application, with their current status listed parenthetically. By this Response, please: amend claims 1, 4, 5 and 6; add claims 22-27; withdraw claims 12-16; and cancel claims 2 and 3. Also please replace the originally-filed Abstract (over 150 words), with the enclosed replacement Abstract (less than 150 words).

Allowed Claims

At the outset, Applicant acknowledges with appreciation the Examiner's indication that claims 17-21 are allowed, and that claims 6-11 contain patentable subject matter and would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In response, Applicant has added new claims 22-27. Independent claim 22 incorporates all the elements of claims 1, 2, 3, and 6. Claims 23-27 depend from claim 22 and include the elements of claims 7-11. Applicant respectfully submits that claims 22-27 are now in condition for allowance.

Restriction Requirement

Applicant acknowledges with appreciation the courtesies extended by the Examiner to Applicant's representative in the telephone conversation of September 16, 2003. During this conversation the Examiner requested an election between Group I (claims 1-11 and 17-21), and Group II (claims 12-16). Applicant's representative provisionally elected, with traverse, to prosecute the invention of Group I claims.

By this Response, Applicant affirmatively elects Group I (claims 1-11 and 17-21) to be examined. Accordingly, Applicant withdraws claims 12-16 without prejudice as non-elected claims.

However, Applicant expressly reserves his right under 35 U.S.C. § 121 to file one or more divisional or continuation applications directed to the non-elected subject matter during the pendency of this application, or an application claiming the benefit of this application under 35 U.S.C. § 120.

Applicant respectfully requests that the Examiner reconsider and withdraw the restriction requirement between the inventions of Groups I and II. There are two criteria for a proper restriction requirement, namely: 1) the inventions must be independent or distinct; and 2) there must be a serious burden on the Examiner if restriction is not required. Under M.P.E.P. § 808, the Examiner must examine the subject application on the merits even though it includes claims to distinct inventions, if the search and examination of the application can be made without serious burden. Applicant submits that a search of the art for references related to the subject matter of the claims of Group I may likely uncover references related to the subject matter of Group II, and therefore the Examiner will not be seriously burdened.

Information Disclosure Statement

In paragraph 6 of the Office Action, the Examiner notifies the Applicant of a missing reference (no. 61) on the third page of form PTO 1149 [sic], and that the information referred to therein has not been considered.

Enclosed with this Response, please find a copy of reference no. 61 entitled: "Radio Equipment and Systems (RES); High Performance Radio Local Area Network (HIPERLAN) Type 1; Functional Specification." Applicant notes that the Examiner has returned a copy of the originally-filed IDS form PTO 1449, with his initials next to each reference, except for the missing reference 61. Applicant therefore requests that the Examiner consider all the information contained the listed, and initialed, references.

Rejection under 35 U.S.C. §112

In paragraphs 8, 9 and 10 of the Office Action, the Examiner objects to an informality in claim 4 and rejects claims 6-11 under 35 U.S.C. § 112 as being indefinite. In response, Applicant has amended claim 4 as suggested by the Examiner. In addition, Applicant has amended claim 6 to establish proper antecedent basis for the "pulse repetition module."

The above-described claim amendments have been drafted in response to the informality objection and the indefiniteness rejection, to impart precision into the claims by more particularly pointing out the invention. The claim amendments have not been drafted to overcome any prior art.

Rejection Under 35 U.S.C. §102

In paragraph 11 of the Office Action, the Examiner rejects claims 1-3 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 5,677,927 ("Fullerton"). As discussed below, Applicant respectfully traverses this rejection.

A. The Law of Anticipation and Enabling Prior Art References

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. M.P.E.P. §2131. The identical invention must be shown in as complete detail as is contained in the claim. *Id*

Applicant hereby amends claim 1 to include an element that is neither taught nor suggested by Fullerton. In fact, Fullerton expressly teaches away from the newly-added element. Claim 1 now recites, in part:

"...a data modulation unit configured to generate a digital stream of pulse data which is synchronized with a master clock, wherein the data modulation unit comprises a pulse amplitude module configured to vary an amplitude of the digital stream of pulse data;"

Fullerton fails to teach or suggest pulse amplitude modulation of ultra wide band pulses, as claimed. On the contrary, Fullerton expressly teaches away from the use of pulse amplitude modulation in ultra wide band systems:

"**Amplitude** and frequency/phase modulation are **unsuitable** for this particular form of impulse communications; the **only suitable choice** is pulse position modulation, which allows the use of a matched filter (i.e., cross correlator) in the receiver" [emphasis added] (col. 9, lines 29-34).

Thus, Fullerton teaches transmission of pulse position modulated ultra wide band pulses: "Impulse radio systems (i.e., ultra wide band) use pulse position modulation." (col. 1, lines 28-29). Fullerton teaches the use of subcarriers for, among other reasons, information modulation (col. 2, lines 64-65). The subcarriers may be modulated "by frequency modulation (FM) techniques, amplitude modulation (AM), phase modulation, frequency shift keying (FSK), phase shift keying (PSK), pulsed FM, or the like" (col 3, lines 63-67).

However, the "modulated subcarrier signal is [then] used to time shift the position of the pulses of the coded timing signal or the periodic timing signal. Thus, the signal that triggers the output stage is **a train of pulse position modulated pulses**" (col. 4, lines 3-7). [emphasis added]

In contrast, Applicant's amended claim 1 recites, in part, a pulse amplitude module configured to vary an amplitude of the digital stream of pulse data. Fullerton expressly teaches away from transmitting pulse amplitude modulated ultra wide band pulses.

Therefore, Applicant respectfully submits that the above-described amendments have traversed the rejection of independent claim 1. As claims 2 and 3 have been canceled, the rejection to these claims is now moot.

Rejection Under 35 U.S.C. § 103

In paragraph 12 of the Office Action, claims 4 and 5 stand rejected as unpatentable under 35 U.S.C. § 103(a) over Fullerton. Applicant respectfully traverses this rejection.

Because claims 4 and 5 depend from independent claim 1, it is respectfully submitted that the rejection of claims 4 and 5 has been traversed by virtue of their dependency from claim 1. M.P.E.P. § 2143.03.

Change of Attorney Address

Accompanying this Response to Office Action is PTO form SB/122, Change of Correspondence Address. Please change the correspondence address to:

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The attorney of record can be reached by phone at: 760.607.0844

Conclusion

Applicant believes that this Response has addressed all items in the Office Action and now places the application in condition for allowance. Accordingly, favorable reconsideration and allowance of claims 1-27 at an early date is solicited. Should any issues remain unresolved, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

3.30.04
Date



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